

incorporated co-pending patent application. Therefore, the operation of the wireless page delivery system will not be described in any more detail. The above shows a system that may use the generalizer system and method in accordance with the invention in order to effectively process HTML pages even when those pages change.

5 Figure 2B is a block diagram illustrating a wireless web page generation system 60 in accordance with the invention. Generally, the web page generation system permits a producer or company with a web site to control the look of its one or more web page when the web pages are downloaded to a wireless device as will be described in more detail below. The wireless web page generation system 60 may include a back-end portion 80 and a front-end portion 82. The 10 front-end portion may also be referred to as a graphical user interface (GUI) tool. In a preferred embodiment of the invention, the back-end portion may include one or more compiled JAVA programs/modules that implement the functions of the back-end as described in more detail below and the front-end may be one or more Visual Basic modules/programs that implement the functions of the front-end (GUI Tool) as described in more detail below. The GUI tool and the 15 back-end may be connected to each other using APIs as is well known.

In more detail, the back-end 80 may further include the web page delivery portion 70 shown in Figure 1, an RML builder module 84, an XSL generator module 86 and a stylesheet database 88. The function of each module will be described herein and a more detailed description of each module will be provided below. As described above, the web page delivery 20 portion 70 may generate XHMTL. The RML builder module 84 may generate an RML document based on a generated ruleset as described in more detail in the incorporated co-pending

patent application and output the RML document into the XSL generator 86 that generates an XSL stylesheet based on the RML document. The generation of the XSL stylesheet may be accomplished with the generalizer system and method in accordance with the invention. The generated stylesheet may be stored in the database 88. The XSL stylesheet may be used to
5 automatically generate one or more cards from a web page so that the web page may be downloaded and displayed on a wireless device.

The GUI tool 82 may further include a ruleset construction toolset 90, a ruleset database 92, a project construction toolset 94 and a wireless website projects database 96. The Graphical User Interface (GUI) tool enables the user to interact with the application. In particular, using the
10 GUI tool, the user can perform content selections, configuration and deployment for their wireless website project including defining the one or more cards that contain the content of the web site. In a preferred embodiment, the GUI has the look and feel of standard MS Windows-type application, and conforms to MS Windows applications standards.

The ruleset construction toolset 90 may permit the user to create and define rulesets. A
15 ruleset expresses how the wireless page delivery system 70 should transform the content and services from a desktop-centric webpage into one or more cards destined for a wireless device such as the new formatting for the cards and which content goes on which card. In more detail, a ruleset may also define which URLs use a particular ruleset. The ruleset may also include an XSL stylesheet that specifies how the web page is transformed into one or more wireless pages.
20 Using the ruleset construction toolset, a user can:

1. Create, open, and save rulesets;

2. Select a desktop-centric webpage on which to base a ruleset;
3. Configure a ruleset (select and group the content and services for a web page for wireless delivery);
 4. Integrate specialized wireless features into the ruleset;
 5. Graphically view the Wireless Navigation Structure of the ruleset; and
 6. Deploy the ruleset for testing purposes using a wireless device emulator or an internet-enabled wireless device.

The ruleset construction toolset 90 may receive the XHTML document representing a web page from the web delivery portion 70 and generate one or more rulesets based on the XHTML that may be stored in the database 92. The one or more rulesets, as described below in more detail, determine how the HTML web page will look on the wireless devices when the web page is converted into the wireless web page. The rulesets in the database 92 may be sent to the RML builder 84 that generates the RML document and it may also be sent to the project construction toolset 94 that generates the wireless website projects for the incoming web pages as described below. The finished projects are stored in the database 96.

In operation, a producer may interact with the GUI tool to generate a wireless website project which includes information about the look of the HTML web page on the one or more wireless devices. When the producer or user selects a web page, the wireless delivery portion 70 may retrieve that web page and generate an XHTML document corresponding to the web page.

Using the ruleset construction toolset, the user may extract or automatically extract one or more elements from the web page. From the extracted elements, known as atomics hereinafter, the user may generate the look of the wireless pages and review the wireless pages. Once the user is satisfied with the wireless pages, one or more rulesets are generated that capture the information